

REMARKS

Claims 1, 3, 5 and 6 were rejected as being unpatentable over Jensen et al. (US 2001/0051130), in view of Schulz et al. (US 5,906,792). The Examiner states that Jensen discloses a hydrogen storage material that comprises an aluminum hydride and a catalyst, a preferred catalyst being $\text{Zr}(\text{OPr})_4$ (zirconium tetran-propoxide) in crystalline form. This is again respectfully traversed.

Jensen relates to a dry doping method of hydrogen storage materials, comprising the steps of dry homogenizing metal hydrides by mechanical mixing, such as by crushing or ball milling a powder, of a metal aluminum hydride with a transition metal catalyst (cf. [0007]). Suitable catalyst precursors include, but are not limited to $\text{Ti}(\text{OBu})_4$, $\text{Zr}(\text{OPr})_4$, $\text{VO}(\text{OPri})_3$, etc (cf. [0024]). However, as evident from [0023] the catalyst precursors via homogenization of the metal hydride with the catalyst under an atmosphere of argon, produces a novel material that contains only traces of carbon. This means that the metal catalyst is not present as an organometallic compound (see also [0027]). Beta-hydride elimination from the alkoxy ligands of the catalyst precursor leads to dissociation of the organic groups as butanal from the titanium center and the deposition of a hydrido titanium species on the NaAlH_4 host material. Therefore, Jensen et al. does not disclose a hydrogen-storage material having an organometallic compound of the metals Zr or V, and in particular not an organometallic component which has a nanocrystalline structure. Please also note that according to [0049] $\text{Zr}(\text{OPr})_4$ is present in a 70 wt. % propanol solution, which does not have a nanocrystalline structure.

Hence, the subject-matter of the claims is not rendered obvious by Jensen et al. in view of Schulz et al. It is respectfully submitted that the obviousness rejection should be withdrawn.

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Respectfully submitted,

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